

Claims

1. Device for supplying whole blood analysers with tubes of blood,
5 characterised in that it comprises:
 - agitating means (5) located upstream of at least one analyser (4; 4a, 4b);
 - first transporting means (1, 1a, 1b) for transporting the tubes of blood (2) one
10 after the other to the agitating means 5;
 - second transporting means (1, 1a, 1b) for transporting the tubes of blood
mixed by the agitating means (5), one after another, to a sampling point (6),
of the analyser (4);
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 - manipulating means (5, 24, 26) for separately picking up the tubes of blood
(2) which have not yet been mixed, located in front of the agitating means (5),
and placing them in the agitating means (5) in order to agitate them using the
agitating means (5), and for separately removing the tubes of blood (2) from
20 the agitating means (5) and placing them in the second transporting means (1,
1a, 1b) for the mixed tubes (2) to the sampling point (6) of the analyser (4),

which makes it possible to use at least one analyser which has no agitating
means.
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2. Device according to claim 1, characterised in that the first transporting means
(1) for transporting the tubes of blood (2) to the agitating means (5) and the second
transporting means (1) for transporting the mixed tubes (2) to the sampling point (6)
of the analyser (4) consist of one and the same conveyor (1).
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3. Device according to claim 1, characterised in that first transporting means (1)
for transporting the tubes of blood (2) to the agitating means (5) and the second

transporting means (1) for transmitting the mixed tubes (2) to the sampling point (6) of the analyser (4) are formed by different conveyors (1, 1a, 1b).

4. Device according to claim 3, characterised in that the first transporting means
5 (1) comprise a main conveyor (1) for transporting the not yet mixed tubes (2) to the agitating means (5), whereas the second transporting means comprise secondary conveyors (1a, 1b) for transporting the tubes (2) mixed by the agitating means (5) to the sampling point of the analysers (4a, 4b).

10 5. Device according to claim 4, characterised in that the agitating means (5) are located respectively on a secondary conveyor (1a, 1b) upstream of the sampling point (6) of an analyser (4a, 4b).

6. Device according to one of claims 1 to 4, characterised in that the tubes have
15 identifying means, and in that it comprises reading means (7, 8) for reading the identifying means of the tubes, thus enabling each tube (2) to be directed towards an analyser (4a, 4b) depending on the type of analysis specified by the identifying means.

20 7. Device according to one of claims 1 to 6, characterised in that the agitating means (5) comprise a manipulating arm (26) provided with a gripper (27) for taking hold of the tubes (2) on the first transporting means (1, 1a, 1b) and agitating them by rotating the gripper about the longitudinal axis XX' of the manipulating arm (26).

25 8. Device according to one of claims 1 to 6, characterised in that the agitating means (5) comprise a cylinder or barrel (28) which enables a free indentation (18) to be positioned vertically with respect to a tube (2) which is to be agitated, placed on the first transporting means (1).

30 9. Device according to one of claims 1 to 6, characterised in that the means (5) for agitating the tubes (2) comprise a plurality of wheels (16) aligned along the same

rotation axis inside a housing (17), and in that the wheels (16) are provided with indentations (18) for accommodating tubes (2) which are to be agitated.

10. Device according to one of claims 1 to 9, characterised in that the first and/or
5 second transporting means (1, 1a, 1b) take the form of a conveyor belt (19), particularly a smooth belt.

11. Device according to claim 10, characterised in that each tube (2) fits inside a
10 support member (12) located inside the first and/or second transporting means (1, 1a, 1b).

12. Device according to one of claims 9 to 10, characterised in that it comprises a
manipulating arm (24) for introducing the tubes (2), one by one, into the agitating
means (5).
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13. Device according to claim 12, characterised in that the manipulating arm (24)
comprises a gripper (27) for gripping the tubes (2) on the first transporting means (1)
in order to fit them into the free indentations (18) in the wheels (16) of the agitating
means (5) and to grip the tubes (2) in order to remove them from the indentations
20 (18) and place them on the second transporting means (1).

14. Device according to one of claims 9 to 13, characterised in that each
indentation in the wheels (16) of the agitating means (5) is designed to accommodate
a tube (2) mounted on a support (12).
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15. Device according to claim 12, characterised in that the manipulating arm (24)
comprises an electromagnetic module (27) for adhering the tube support (12) to the
end of the manipulating arm (24) each time it is necessary to manipulate a tube (2).

30 16. Device according to claim 1, characterised in that the first transporting means,
the second transporting means and the agitating means are one and the same
component (30).

17. Analysis line comprising a supply device according to one of claims 16.